

**FINAL
OPERATIONAL RANGE ASSESSMENT PROGRAM
PHASE I QUALITATIVE ASSESSMENT REPORT
VOLUNTEER TRAINING SITE - SMYRNA
SMYRNA, TENNESSEE**

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Prepared for:

UNITED STATES ARMY CORPS OF ENGINEERS, BALTIMORE DISTRICT
P.O. Box 1715
Baltimore, Maryland 21203

and

UNITED STATES ARMY ENVIRONMENTAL COMMAND
Aberdeen Proving Ground, Maryland 21010

Prepared by:

MALCOLM PIRNIE, INC.
1300 East 8th Avenue
Suite F100
Tampa, Florida 33605



EXECUTIVE SUMMARY

The United States (U.S.) Army is conducting qualitative assessments at operational ranges to meet the requirements of Department of Defense policy and to support the U.S. Army Sustainable Range Program. The operational range qualitative assessment (hereinafter referred to as Phase I Assessment) is the first phase of the U.S. Army Operational Range Assessment Program. This Phase I Assessment evaluates the operational range area at Volunteer Training Site - Smyrna (VTS-Smyrna) to assess whether further investigation is needed to determine if potential munitions constituents of concern (MCOC) are or could be migrating off-range at levels that may pose an unacceptable risk to human health or the environment. In conducting the Phase I Assessment, MCOC sources, potential off-range migration pathways, and potential off-range human and ecological receptors are evaluated as appropriate.

VTS-Smyrna is located in Rutherford County, approximately 24 miles southeast of downtown Nashville, Tennessee. VTS-Smyrna is an 876-acre training site owned primarily by the U.S. Army Corps of Engineers and licensed for use by the Tennessee Army National Guard (TNARNG). The training facility is adjacent to the Smyrna / Rutherford County Regional Airport. The site is located near the city limits of Smyrna and other nearby population centers, including LaVergne, Murfreesboro, and Nashville, Tennessee. The site is utilized primarily by the TNARNG; however, it is also used by National Guard units from other states, the U.S. Army Reserve, state and local law enforcement agencies, and others.

As part of the Operational Range Inventory Sustainment, a draft update to the Army Range Inventory Database-Geodatabase (ARID-GEO) was submitted to the U.S. Army Environmental Command in December 2006 (ARID-GEO [2006]). The ARID-GEO (2006) identified 10 operational range areas encompassing approximately 526 acres. Approximately 350 acres were identified as other than operational areas.

Potential primary MCOC sources identified at VTS-Smyrna are associated with small arms ranges and training and maneuver areas. In general, MCOC from primary source areas potentially impact the following source media: (1) soil (e.g., impact berms, impact areas surrounding targets, burn pits) and (2) surface water / sediment (e.g., direct deposition into streams and wetlands). MCOC can be released to groundwater (down gradient), surface water / sediment (downstream), off-range soil, or the food chain via a variety of release mechanisms. Release mechanisms for soil may include leaching from soil to groundwater or erosion and runoff to off-range surface soil or to nearby streams.

Since the small arms ranges at VTS-Smyrna have covered concrete firing lines, lateral boundary walls, baffles, and secure berms, no pathways were identified for off-range transport of MCOC. Although pyrotechnics occasionally are used at the training and maneuver areas, spent munitions items are collected after training exercises, and the types of training conducted preclude the accumulation of MCOC in any one area, reducing the likelihood of MCOC release from the training and maneuver areas.

The 10 operational ranges at VTS-Smyrna are categorized as Unlikely.

Unlikely – Five-Year Review

The 10 ranges at VTS-Smyrna are categorized as Unlikely, totaling 526 acres. These ranges consist of small arms ranges and training and maneuver areas. Ranges where, based upon a review of readily available information, there is sufficient evidence to show that there are no known releases or source-receptor interactions off-range that could present an unacceptable risk to human health or the

environment are categorized as Unlikely. Ranges categorized as Unlikely are required to be re-evaluated at least every five years. Re-evaluation may occur sooner if significant changes (e.g., change in range operations or site conditions, regulatory changes) occur that affect determinations made during this Phase I Assessment.

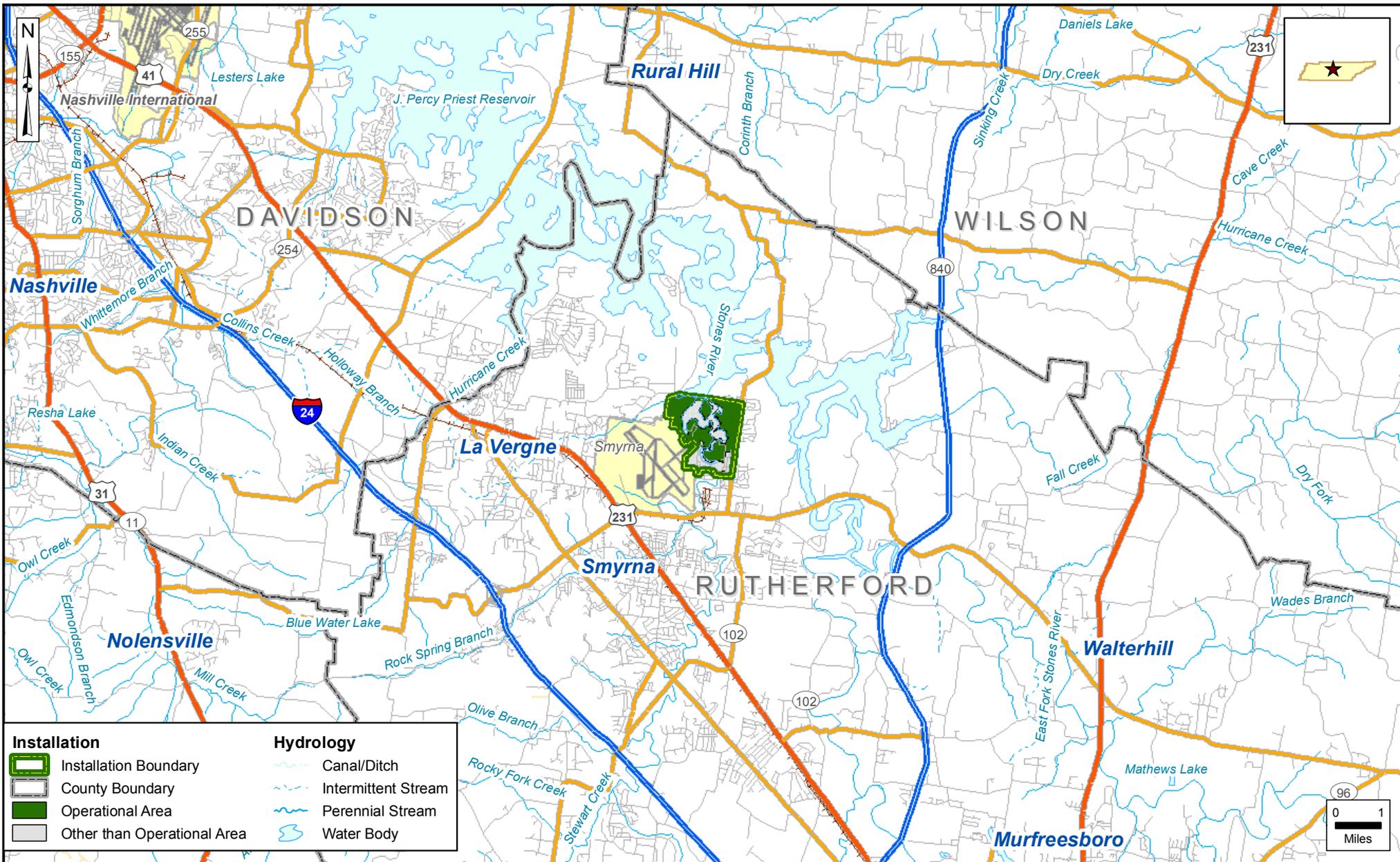
Table ES-1 summarizes the Phase I Assessment findings.

Table ES-1: Summary of Findings and Conclusions for VTS-Smyrna

Category	Total Number of Ranges and Acreage	Source(s)	Pathway(s)	Human Receptors	Ecological Receptors	Conclusions and Rationale
Unlikely	Seven operational ranges; approximately 525 acres	Limited source—limited military munitions use	Not evaluated (limited or no source identified)			Re-evaluate during the five-year review. Limited source was identified.
	Three operational ranges; approximately one acre	Small arms impact berms	No pathway—secured berms, lateral walls, and baffles	Not evaluated (no pathway identified)		Re-evaluate during the five-year review. No pathway was identified.

ABBREVIATIONS/ACRONYM

AFB	Air Force Base
ARID-GEO	Army Range Inventory Database-Geodatabase
ARNG	Army National Guard
bgs	Below Ground Surface
CSM	Conceptual Site Model
DoD	Department of Defense
DODI	Department of Defense Instruction
E	Ecological receptors identified. (This refers to range grouping; pathway designation always precedes E designation.)
GIS	Geographic Information System
GW	Groundwater pathway identified. (This refers to range grouping; M designation always precedes GW designation.)
H	Human receptors identified. (This refers to range grouping; pathway designation always precedes H designation.)
JFHQ	Joint Forces Headquarters
LS	Limited Source
M	Munitions used. (This refers to range grouping; M designation always precedes applicable pathway.)
MCOC	Munitions Constituents of Concern
NG	Nitroglycerin
NGB	National Guard Bureau
ORAP	Operational Range Assessment Program
PU	Pathway unlikely or incomplete. (This refers to range grouping; M designation always precedes PU designation.)
RFMSS	Range Facility Management Support System
SW	Surface water pathway identified. (This refers to range grouping; M designation always precedes SW designation.)
TNARNG	Tennessee Army National Guard
U.S.	United States
USACE	United States Army Corps of Engineers
USACHPPM	United States Army Center for Health Promotion and Preventive Medicine
USAEC	United States Army Environmental Command
USEPA	United States Environmental Protection Agency
VTS	Volunteer Training Site
°F	Degrees Fahrenheit



**Operational Range Assessment Program
Phase I Qualitative Assessment
VTS-Smyrna, TN**

**Figure 1-1
General Location of VTS-Smyrna**

Data Sources:
AEC, ARID-GEO, December 2006
ESRI, StreetMap USA, 2005

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